AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-15 (canceled).

Claim 16 (currently amended): A radar comprising:

a transmission-and-reception element arranged to transmit a transmission signal including an ascending-modulation section where a frequency gradually increases and a descending-modulation section where the frequency gradually decreases in an alternating manner and arranged to receive a reception signal including a reflection signal transmitted from an object;

a frequency-analysis element arranged to obtain data on the frequency spectrum of a beat signal indicating the frequency difference between the transmission signal and the reception signal;

a pair-extraction element arranged to extract a pair of first and second projection portions both caused by the object, where the first projection portion is observed in the frequency spectrum of a beat signal of the ascending-modulation section and the second projection portion is observed in the frequency spectrum of a beat signal of the descending-modulation section;

a detection element arranged to detect at least one of a relative distance and a relative speed of the object based on frequencies of the two projection portions forming the pair; and

a data input element arranged to input data on the moving speed of a moving object having the radar mounted thereon; wherein

the pair-extraction element ~~inversely~~ calculates the frequency difference between the projection portions observed in the frequency spectrums of the beat signals in the

ascending-modulation section and the descending-modulation section based on the moving-speed data, where the frequency difference corresponds to the relative speed between the moving object having the radar mounted thereon and a stationary object, and extracts a pair that most closely corresponds ~~corresponding~~ to the frequency difference ~~on a priority basis~~.

Claim 17 (currently amended): The radar according to Claim 16, wherein the pair-extraction element calculates a coincidence of the signal intensity of the first projection portion and a signal intensity of the second projection portion, extracts a combination showing higher coincidence than other projection portions ~~on a priority basis~~, as a pair, and assigns a higher weight to the signal-intensity coincidence of ~~a~~ the pair corresponding to the frequency difference than to the signal-intensity coincidence of the other projection portions.

Claim 18 (currently amended): The radar according to Claim 16, further comprising a scanning element arranged to change the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the coincidence of azimuths of the first and second projection portions, extracts a combination showing higher coincidence than other projection portions ~~on a priority basis~~, as a pair, and assigns a higher weight to the azimuth coincidence of ~~a~~ the pair corresponding to the frequency difference than to the azimuth coincidence of the other projection portions.

Claim 19 (currently amended): The radar according to Claim 17, further comprising a scanning element arranged to change the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the coincidence of azimuths of the first and second projection portions, extracts a combination showing higher coincidence than other projection portions ~~on a priority basis~~, as a pair, and assigns a higher weight to the azimuth

coincidence of ~~a~~ the pair corresponding to the frequency difference than to the azimuth coincidence of the other projection portions.

Claim 20 (currently amended): The radar according to Claim 16, further comprising a scanning element arranged to change the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the degree of correlation between signal-intensity profiles in the azimuth direction of the first and second projection portions, extracts a combination showing a higher correlation degree that other projection portions ~~on a priority basis~~, as a pair, and assigns a higher weight to the correlation degree of ~~a~~ the pair showing the frequency difference than to the correlation degree of the other projection portions.

Claim 21 (currently amended): The radar according to Claim 17, further comprising a scanning element arranged to change the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the degree of correlation between signal-intensity profiles in the azimuth direction of the first and second projection portions, extracts a combination showing a higher correlation degree than other projection portions ~~on a priority basis~~, as a pair, and assigns a higher weight to the correlation degree of ~~a~~ the pair showing the frequency difference than to the correlation degree of the other projection portions.

Claim 22 (currently amended): The radar according to Claim 18, further comprising a scanning element arranged to change the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the degree of correlation between signal-intensity profiles in the azimuth direction of the first and second projection portions, extracts a combination showing a higher correlation degree that other projection portions ~~on a priority basis~~, as a pair, and assigns a higher weight to the correlation degree of athe pair showing the frequency difference than to the correlation degree of the other projections.

Claim 23 (currently amended): The radar according to Claim 19, further comprising a scanning element arranged to change the beam azimuth of the transmission signal over a predetermined scanning range, wherein the pair-extraction element calculates the degree of correlation between signal-intensity profiles in the azimuth direction of the first and second projection portions, extracts a combination showing a higher correlation degree than other projection portions ~~on a priority basis~~, as a pair, and assigns a higher weight to the correlation degree of ~~a~~ the pair showing the frequency difference than to the correlation degree of the other projection portions.

Claim 24 (previously presented): The radar according to Claim 16, further comprising a detection element arranged to detect a continuous stationary object based on a predetermined number of the pairs showing the frequency difference that exists along at least one of the azimuth direction and the distance direction.

Claim 25 (previously presented): The radar according to Claim 16, further comprising a pair extraction error determining element that detects an error in the pair extraction process based on an object corresponding to a pair that does not correspond to the frequency difference in a predetermined area where the continuous stationary object exists.

Claim 26 (previously presented): The radar according to Claim 24, further comprising a pair extraction error determining element that detects an error in the pair extraction process based on an object corresponding to a pair that does not correspond to the frequency difference in a predetermined area where the continuous stationary object exists.

Claim 27 (previously presented): The radar according to Claim 16, further comprising an output element that does not output a detection result when a

predetermined object is detected beyond the continuous stationary object.

Claim 28 (previously presented): The radar according to Claim 24, further comprising an output element that does not output a detection result when a predetermined object is detected beyond the continuous stationary object.

Claim 29 (previously presented): The radar according to Claim 25, further comprising an output element that does not output a detection result when a predetermined object is detected beyond the continuous stationary object.

Claim 30 (previously presented): The radar according to Claim 26, further comprising an output element that does not output a detection result when a predetermined object is detected beyond the continuous stationary object.